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# UK Patent Application (12) GB (19) 2 269 788 A

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## (54) Trailer for transportation and display

(57) The trailer has a wheeled undercarriage 1 for facilitating movement from one location to another together with vertically adjustable castors 11 which can be utilized to lift the carriage clear of a floor or road surface so that the vehicle can be maneuvered on the castors alone. In order to increase the area available for product display a body 8 is provided on or integral with the trailer, the body having open sides covered by covers 5 each provided with, when closed, an inward facing open side, the covers each being connected by vertical hinge arrangements to a vertical corner of the body to allow horizontal pivoting, the covers including, within themselves, display spaces visible when opened. Slotted structural elements 14 in the body 8 and covers 5 provide accommodation for hangers and shelf brackets.

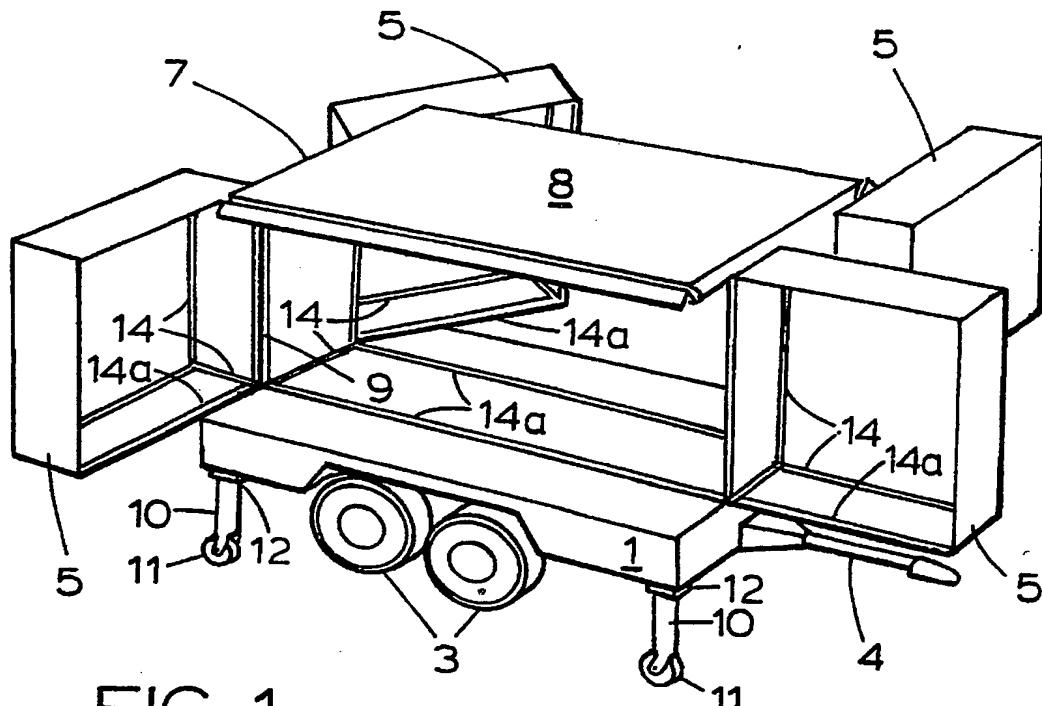


FIG. 1

GB 2 269 788 A

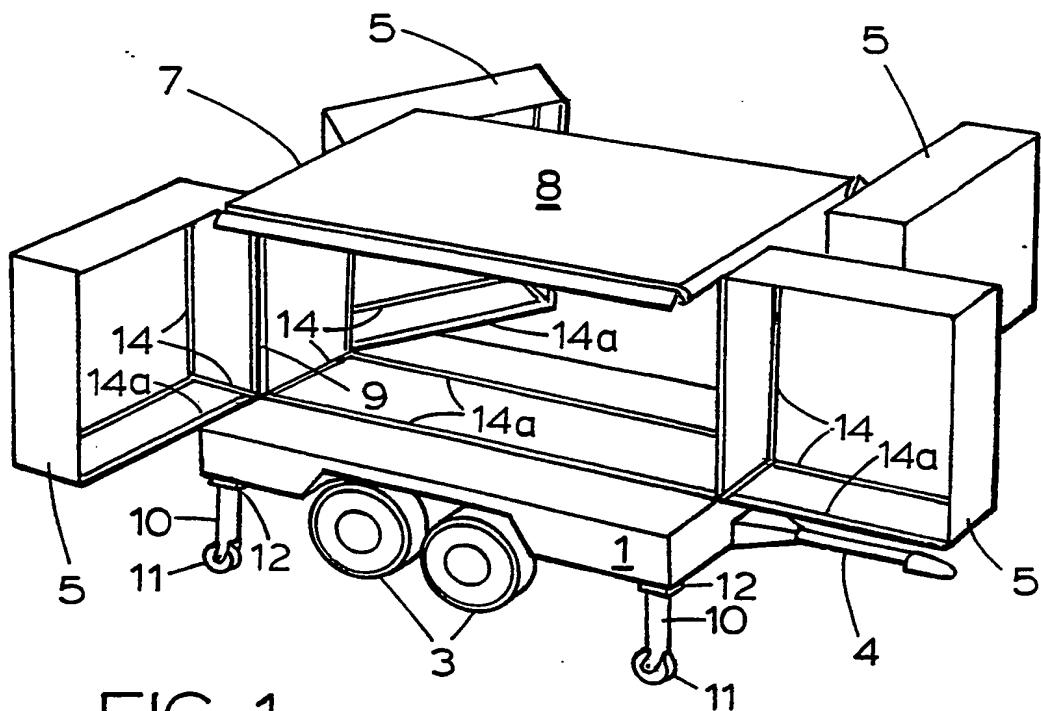


FIG. 1

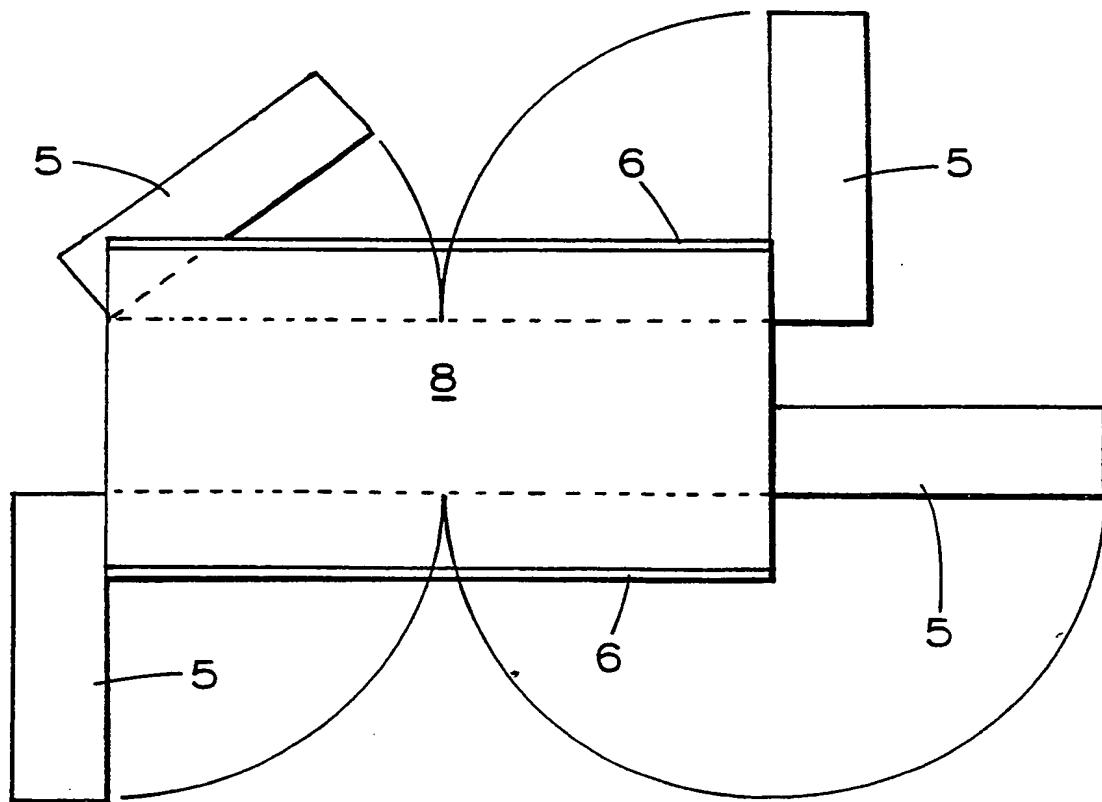


FIG. 2

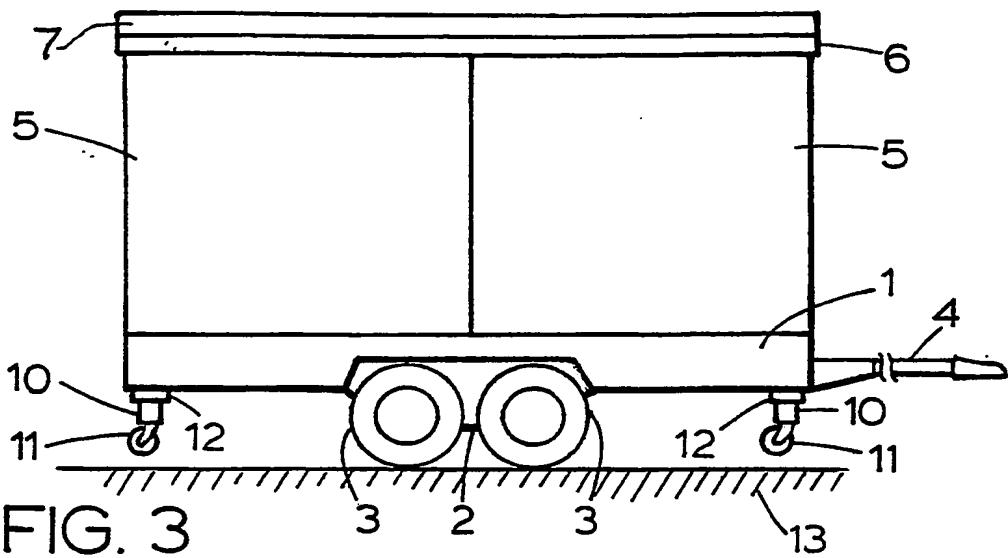


FIG. 3

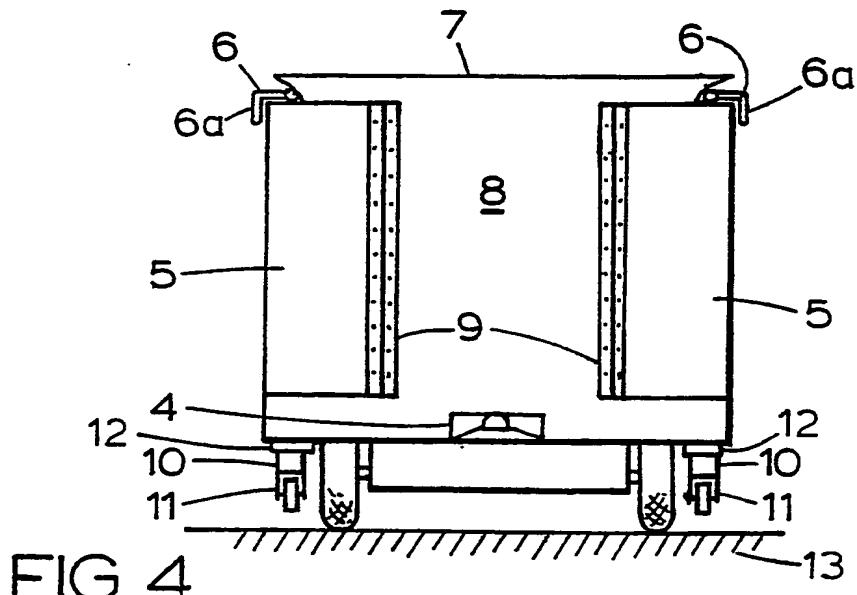


FIG. 4

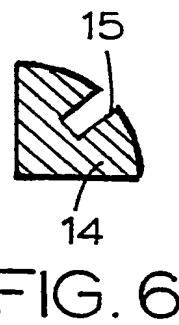


FIG. 6

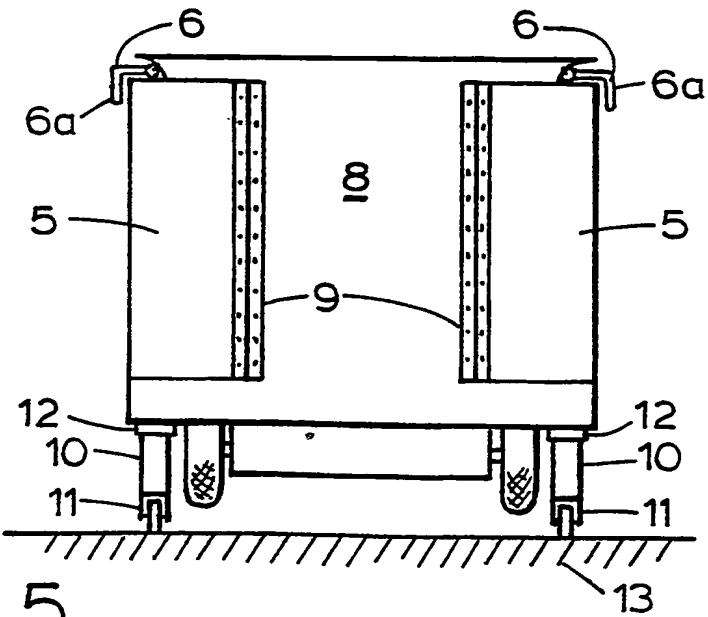


FIG. 5

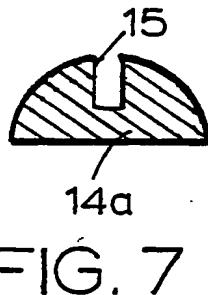


FIG. 7

## VEHICLES FOR TRANSPORTATION AND DISPLAY

## OF ARTICLES OF MERCHANDISE

The present invention relates to vehicles and a article supporting structure used to display articles of merchandise, 5 for instance at an exhibition. The vehicle, according to the invention, is particularly suited for pre-set up and easy transportation to other locations where spaces, allotted for article display, are of a fixed size and configuration and immediately adjacent to other similar spaces. Such an 10 arrangement of spaces is to be found at, so called, trade shows.

In order to participate in such trade shows, the normal procedure is to build display counters, shelves and cabinets etc., away from the trade show site and then assemble and set up the article display in the allotted space at the site. This is a 15 very inconvenient procedure in that wiring for electrical power, piping for water and other needed supplies must be incorporated during the assembly. After the assembly, the articles must be set up for display and packaging, crates and the like placed out of sight or removed from the premises of the show. After the 20 termination of the show the reverse procedure must be followed.

It will be obvious that such procedures are time consuming, labour intensive and there is always a possibility that the articles will be damaged. A more convenient way of proceeding is desirable. However, although article display vehicles are 25 presently available they are not suitable for this usage since the spaces, being limited in size, do not allow maneuvering of known vehicles into them unless the vehicles are of such dimensions as to result in poor economy of space usage. Furthermore, it is desirable that any vehicle for this usage 30 provide for the maximum utilization of the space when the vehicle

is in position.

#### PRIOR ART

An example of known display apparatus is shown in United States patent 4,019,773 - Vehling, F. W. - issued April 26, 1977 and directed to a MOBILE CARPET DISPLAY CENTRE. Although the display apparatus is suitable for the use specified, in the patent, it could not readily be maneuvered into a trade show space since there is no provision for close quarter maneuvering.

Other examples of equally unsuitable display apparatus are shown in United States patents 3,692,350 - Radtke, C. W. - issued September 19, 1972, for a MOBILE OUTDOOR DISPLAY UNIT and 4,4890,866 - Komatsu, S. - issued November 6, 1984 and 2,069,852 - Ruthenburg, L. - issued February 9, 1937 for a VEHICLE FOR DISPLAYING GOODS. The apparatus shown in these patents also do not meet the requirement for maneuvering.

In addition, none of the known vehicles are specially adapted for maximizing the usage of allotted space.

#### OBJECTS OF THE INVENTION

It is a prime object of the present invention to provide mobile article display vehicles which are maneuverable into closely defined spaces while maintaining an excellent economy of space use.

A further object is to provide a self contained mobile display vehicle which can be substantially completely set up off the show location and readily moved and set up for article display with a minimum of time and labour cost.

A still further object of the invention is to provide a vehicle especially adapted to utilize the allotted space at an exhibition site.

## SUMMARY OF THE INVENTION

In accordance with the present invention the mobile display apparatus comprises a trailer type structure with normal undercarriage and trailer hitch facilities. The display part of 5 the apparatus can be in the form of a flat bed trailer for articles which can be transported covered with a tarpaulin or in the form of a box-like main body, preferably utilizing the flat bed as the floor thereof, provided with, at least, one box-like cover on, at least, one side. The cover being hinge connected to 10 one vertical edge of the end of the fixed structure to allow opening outward to approximately 180°. It may be desirable to divide the cover into, for instance, two equal parts, one part hinged at each end of the main structure. Furthermore, covers 15 may be provided on both sides of the main body resulting in increased display area with a walk through possibility and maximum usage of space.

The fixed structure and the cover can each be provided with counters and shelves, as required to display the articles, with the necessary accessory piping and wiring incorporated. In order 20 to improve the usefulness and facilitate fast and efficient set-up of a display slotted structural elements are secured in the inside corners and on the inside peripheries of the box-like structure and the covers. These slotted elements are available commercially and are eminently suited for this purpose and come 25 in cross-sectional configurations suitable for corner and flat surface mounting with the slotted side facing outward so that hangers, shelf brackets and the like can be inserted in and locked in the slots at the appropriate locations for hangers and shelf supports. The vehicle then requires only one or two 30 connections to be made on the site for power, water etc., the

articles to be displayed being previously placed in position, off site, so that they are immediately on display when the covers are opened.

In order to facilitate maneuvering the apparatus in 5 tight spaces casters are provided, preferably, at each of the corners of the trailer part. The casters are vertically adjustable to raise the undercarriage free of a floor or road surface whereafter the casters carry the weight of the complete apparatus and allow movement of the vehicle, in any direction, on 10 the casters. When the vehicle is properly positioned the casters may be adjusted to allow part or all of the weight of the vehicle to rest on the undercarriage.

Alternately the casters may be fixed in position and the undercarriage raised to leave the fixed casters to support the 15 weight of the vehicle. It is, however, desirable to provide casters which are, individually, vertically adjustable in order that on site levelling may be achieved.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a perspective view of the vehicle in partly 20 open condition illustrating the versatility of article display configuration,

Figure 2 shows a plan view of the mobile article display vehicle in the configuration shown in Figure 1.

Figure 3 shows a side view of the vehicle of Figure 1 in a 25 closed configuration,

Figure 4 shows an end view of the vehicle, and

Figure 5 shows a end view of the of Figure 1, in a parked position, with the vehicle weight resting on the casters.

Figures 6 and 7 illustrate cross-sectional configurations of 30 slotted elements adapted to hold hangers, shelf brackets and the

like.

#### DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings, Figures 1 and 2 show the article display vehicle, according to the invention, as comprising a flat bed 1 having an undercarriage 2 provided with wheels 3 and a trailer hitch 4, preferably removable, for attaching the apparatus to a motor vehicle for movement between locations. 5

The vehicle is shown as being provided with casters 11 supported by telescopic pipe or hydraulic cylinder means 10, 12 which provide, additional to the normal caster support, means to 10 adjust the caster downward to lift the undercarriage wheels 3 clear of a road or floor surface, see Figure 1, so that the vehicle, as a whole, can be minutely maneuvered, on its caster supports, into a confined space, i.e. an exhibition space. 15 Means, not shown, are provided to lock the caster wheels and their supports in fixed positions vertically and against rolling or swiveling. The casters may be retracted slightly to allow part of the weight of the unit to rest on the undercarriage. Furthermore, the casters may be used to level the flat bed area 20 of the vehicle if this is desirable and/or necessary. 1

Mounted on the flat bed is a box-like main body 8 having side covers 5 which are preferably box-like in structure although it is conceivable and perhaps useful, in some instances, to omit either the top or bottom side, or both, of the cover for easier 25 access to the inner side of the main vertical panel of the cover. The covers are hinged to the vertical end corners of the main body part 8 by hinges 9 as best shown in Figures 4 and 5. Preferably two equally dimensioned covers 5 are provided on each side of the main body 8 as shown in Figure 3.

30 As best shown in Figures 1, 4 and 5, the body is provided

with a roof or top side 7. Running lengthwise, on each top side of the main body part and under the outer sides of the roof are auxiliary closure flaps 6 each having a turned down outer flange 6a which overlaps the top edge of the cover. These flaps serve 5 two purposes, they act as rain shields for the covers and the structure as a whole and, furthermore, when the structure is closed the flaps prevent inadvertent opening of the covers.

Referring now to Figures 1, 3 and 5, caster supports 12, preferably in the form of hydraulic cylinders, are shown 10 located at the corners of the vehicle. The supports 12 are provided with telescoped parts 10, for instance secured to a piston movable in a cylinder 12, which parts are provided, at their lower extremities with caster wheels 11 which are shown in Figures 1 and 5 as supporting the weight of the vehicle, the 15 undercarriage wheels 3 being raised clear of the floor or road surface 13 thus allowing for the maneuvering of the vehicle on the caster wheels 11. Individual adjustment of the casters can be used for levelling of the trailer as required for the display.

In order to facilitate easy set-up of a display and provide 20 a wide choice of arrangements, the box 8 and the covers 5 are provided with slotted structural elements 14, shown in heavy line in Figure 1, on the inside perimeter edges of the box-like structure and the covers as well as in the inside corners of the box-like structure and the covers. The slotted elements have 25 cross-sectional configurations suitable for corner (quarter round), Figure 6, and flat surface (partial sphere), Figure 7, mounting where the slots 15 face inward to provide a longitudinal lock-in slots for hangers and shelf brackets arrangeable in a great variety of configurations. With this facility provided 30 integral with the box-like structure an exhibiter is free to

exhibit in an individualistic manner. The box-like structure, complete with structural elements may in itself constitute a separate unit conveniently removable from the trailer part to constitute a portable display container and be transported 5 separately to an exhibition site.

The vehicle, according to the invention, is the basic display vehicle. Shelving, lighting, power and water supplies etc. can be incorporated in the box-like structure as needed to facilitate the display of particular articles of merchandise and 10 in a manner which requires only one connection for each particular supply. The apparatus can be completely outfitted, for instance, at the products-to-be-displayed source so that it is only necessary to connect supply sources after the apparatus is maneuvered into the allotted space at the exhibition site, 15 thus saving time and labour. In addition, problems that may arise in the setting up of the display can be solved at the source location. Since exhibition spaces are standardized the vehicle can be dimensioned to make the most efficient use of the space available.

20 Although a simple embodiment of the invention is disclosed it will be obvious that variations of the embodiment described may be made which do not depart from the spirit and scope of the invention as defined in the appended claims. For instance, there may be one or more covers per side of the box-like structure, one 25 side of the box may be closed and fill panels and the like may be used to enhance the display. Adjustment of the caster supports may be manually or electrical powered. In addition, there may be three or more casters provided for maneuvering and the hitch and supporting tongue made retractable into the bed of the vehicle.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY  
OR PRIVILEGES IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A vehicle, adapted for maneuvering into a confined space, for the transportation, display and demonstration, of articles of merchandise and like, comprises a display platform provided with an undercarriage for facilitating mobility between locations, the display platform being provided underneath with three or more caster units, the undercarriage and the caster units being vertically adjustable, with respect to each other, to lift the undercarriage clear of a floor or road surface so that the platform can be maneuvered, on the casters, into a desired position.
2. A vehicle as claimed in Claim 1, wherein the casters are individually adjustable, with respect to each other, to provide for levelling of the platform.
3. A vehicle as claimed in Claim 1, wherein the platform constitutes the floor of a box having, at least, one open side, the box being provided with, at least, one horizontally swingable cover hinged to the box at a vertical corner thereof and covering the open side, which cover can be opened to be used as additional display area.
4. A vehicle as claimed in Claim 3, wherein the cover is in the form of an open sided box whose open side faces inward when the cover is closed, the cover constituting a display area within itself, the box and the cover being provided with slotted structural elements in their corners and at their peripheries to

maccept and secure hangers, shelf brackets and the like to facilitate article display.

5. A vehicle as claimed in Claim 4, wherein the top of the box is provided, on its longitudinal edge above the cover, with a 5 longitudinal strip top element of which the outer edge is turned down over the outside upper edge of the cover, the element being hinge connected to the top side of the box at its inner longitudinal edge whereby the outer turned-down edge can be raised to allow opening and closing of a cover located 10 therebeneath.

6. A vehicle for the transportation, display and demonstration of articles of merchandise, comprising a trailer part provided with an undercarriage facilitating its transportation from one location to another, the underside of the trailer part being 15 provided with vertically adjustable supports for three or more casters which supports are adjustable to raise the undercarriage clear of a floor or road surface so that the trailer rests fully on the casters and is maneuverable thereon.

7. A vehicle as claimed in Claim 6, wherein the trailer is 20 provided with a box-like main body, two longitudinal sides of which are each provided with two box-like covers having, when closed, inward facing open sides and which covers are each connected by vertical hinge arrangements, at one of their ends, to the vertical corner edges of the main body to provide 25 horizontal swing-out opening of the covers and access to the inner side of the covers and the main body whereby articles, located in the main body and the covers, are displayed.

x  
d  
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1  
8. A vehicle as claimed in Claim 7, wherein the main body part is provided, at its sides, with longitudinal roof elements having their outer edges bent down and over the covers to act as a weather shield and a means of preventing inadvertent opening of 5 the covers, the strips being hinged at their inner longitudinal edges to allow raising of the bent over part of the element to clear the upper side of the covers and allow opening thereof.

9. A vehicle, as claimed in Claim 7, wherein the box-like structure and the covers are provided with slotted structural 10 elements in their corners and at their peripheral edges, the slots of the structural elements being adapted to securely hold hangers, shelf brackets and the like to facilitate article display.

10. A movable structure for displaying articles of merchandise 15 comprising, a main box-like body open on at least one side thereof, a box-like cover hinged for opening and closing the open side of the structure wherein the open side of the cover faces inward when closed and wherein the inside corners and the inside peripheral edges of the box-like structure and the cover are 20 provided with slotted structural elements, the slots facing inward and being adapted to securely accept and secure hanger, shelf bracket and like elements to facilitate the support and display of said articles.

**Amendments to the claims have been filed as follows**

1. A vehicle, adapted for manoeuvring into a confined space, for the transportation, display and demonstration, of articles of merchandise and like, comprises a display platform provided with an undercarriage for facilitating mobility between locations, the display platform being provided underneath with three or more caster units, the undercarriage and the caster units being vertically adjustable, with respect to each other, to lift the undercarriage clear of a floor or road surface so that the platform can be manoeuvred, on the casters, into a desired position, and the platform constituting the floor of a box having, at least, one open side, the box being provided with, at least, one horizontally swingable cover hinged to the box at a vertical corner thereof and covering the open side, which cover can be opened to be used as additional display area.

2. A vehicle as claimed in Claim 1, wherein the casters are individually adjustable, with respect to each other, to provide for levelling of the platform.

3. A vehicle as claimed in Claim 1 or Claim 2, wherein the cover is in the form of an open sided box whose open side faces inward when the cover is closed, the cover constituting a display area within itself, the box and the cover being provided with slotted structural elements in

their corners and at their peripheries to accept and secure hangers, shelf brackets and the like to facilitate article display.

4. A vehicle as claimed in Claim 3, wherein the top of the box is provided, on its longitudinal edge above the cover, with a longitudinal strip top element of which the outer edge is turned down over the outside upper edge of the cover, the element being hinge connected to the top side of the box at its inner longitudinal edge whereby the outer turned-down edge can be raised to allow opening and closing of a cover located therebeneath.

5. A vehicle for the transportation, display and demonstration of articles of merchandise, comprising a trailer part provided with an undercarriage facilitating its transportation from one location to another, the underside of the trailer part being provided with vertically adjustable supports for three or more casters which supports are adjustable to raise the undercarriage clear of a floor or road surface so that the trailer rests fully on the casters and is manoeuvrable thereon.

6. A vehicle as claimed in Claim 5, wherein the trailer is provided with a box-like main body, two longitudinal sides of which are each provided with two box-like covers having, when closed, inward facing open sides

and which covers are each connected by vertical hinge arrangements, at one of their ends, to the vertical corner edges of the main body to provide horizontal swing-out opening of the covers and access to the inner side of the covers and the main body whereby articles, located in the main body and the covers, are displayed.

7. A vehicle as claimed in Claim 6, wherein the main body part is provided, at its sides, with longitudinal roof elements having their outer edges bent down and over the covers to act as a weather shield and a means of preventing inadvertent opening of the covers, the strips being hinged at their inner longitudinal edges to allow raising of the bent over part of the element to clear the upper side of the covers and allow opening thereof.

8. A vehicle, as claimed in Claim 6, wherein the box-like structure and the covers are provided with slotted structural elements in their corners and at their peripheral edges, the slots of the structural elements being adapted to securely hold hangers, shelf brackets and the like to facilitate article display.

9. A movable structure for displaying articles of merchandise comprising, a main box-like body open on at least one side thereof, a box-like cover hinged for opening

and closing the open side of the structure wherein the open side of the cover faces inward when closed and wherein the inside corners and the inside peripheral edges of the box-like structure and the cover are provided with slotted structural elements, the slots facing inward and being adapted to securely accept and secure hanger, shelf bracket and like elements to facilitate the support and display of said articles.

## Relevant Technical fields

(i) UK CI (Edition 4) B7B (BHF, BHH, BHM)  
B7D (DAWV, DAWP, DAWT)

(ii) Int CI (Edition 5) B60P B60S

## Search Examiner

PAT EVERETT

## Databases (see over)

(i) UK Patent Office

(ii)

## Date of Search

21 JUNE 1993

## Documents considered relevant following a search in respect of claims

1-9

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
Y	GB 2191738 A (STEVENSON) Figure 3	3
X, Y	US 5108122 A (BEAGLEY) Figures 2,3 also column 3, lines 6-25	X:1 Y:3

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